

Notice of Allowability

Application No.

09/801,695

Applicant(s)

HAYAKAWA ET AL.

Examiner

Armando Rodriguez

Art Unit

2828

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Response under 35 CFR 1.116 filed February 19, 2004.
2. ☒ The allowed claim(s) is/are 2-16.
3. ☒ The drawings filed on 01 March 2001 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of the:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.


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TECHNOLOGY CENTER 2800

DETAILED ACTION

Allowable Subject Matter

Claims 2-16 are allowed.

The following is an examiner's statement of reasons for allowance:

Regarding claims 2-7,15,16,

After reviewing applicant's amendment and conducting an updated search none of the cited prior arts alone or in combination discloses the claimed semiconductor laser having the structural combination of independent claim 2 having, in particular a lower and upper waveguide layers, where the upper waveguide layer has a first thickness smaller than a second thickness of the lower waveguide layer and where the sum of the first and second thickness is 0.5 μm or greater, thereby allowing the semiconductor laser to oscillate with higher output power.

Regarding claim 8,

After reviewing applicant's arguments and conducting an updated search, the sole reason for allowance of the semiconductor laser is the recited structural combination of the index-guided structure of independent claim 8, which allows the semiconductor laser to oscillate only in a fundamental transverse mode.

Regarding claims 9,10,13,14,

After reviewing applicant's amendment and conducting an updated search none of the cited prior arts alone or in combination discloses the claimed semiconductor laser having the structural combination of independent claim 9 in particular having the current confinement layer formed above the upper optical waveguide layer and in physical with

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the optical waveguide and having an upper cladding layer disposed across a longitudinal direction of the index-guided structure with first and second edges, which are aligned with the longitudinal edges of the lower cladding layer.

Regarding claims 11,12,

After reviewing applicant's amendment and conducting an updated search none of the cited prior arts alone or in combination discloses the claimed semiconductor laser having the structural combination of independent claim 11 in particular having the current confinement layer formed above the upper optical waveguide layer and in physical with the optical waveguide and where the lower and upper optical waveguides and the quantum wells are made of aluminum-free semiconductor material.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Armando Rodriguez whose telephone number is 571-272-1952. The examiner can normally be reached on 10-hour day / M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Ip can be reached on 571-272-1941. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Armando Rodriguez
Examiner
Art Unit 2828


Paul Ip
Supervisor
Art Unit 2828

AR/PI